

DIRECTED FLOW METHOD AND SYSTEM FOR BULK SEPARATION OF
SINGLE-WALLED TUBULAR FULLERENES BASED ON HELICITY

ABSTRACT

A method for bulk separation of single-walled tubular fullerenes (100)
5 based on helicity is provided wherein a solution or suspension of the single-
walled tubular fullerenes (100) is flowed onto a crystalline or highly oriented
substrate (30). The single-walled tubular fullerenes (100) that flow onto the
substrate (30) have a respective longitudinal axis that is aligned with the flow
direction (105). The direction of flow (105) is oriented at a predetermined angle
10 with respect to a lattice axis (24) of the substrate (30) for energetically favoring
adsorption of a respective plurality of single-walled fullerenes (100) having a
tubular contour and a selected helicity. Subsequently, the adsorbed single-walled
tubular fullerenes (100) of the selected chirality are removed from the substrate
(30).